Appendix

The third full paragraph beginning on page 9, and continuing to page 10 has been amended as follows:

From 20% to 30% of the hair cortex occurs in a highly organized (α-helical) form. When the hair is heated above 230°C, a doublet peak is usually observed in DSC, which has been interpreted in terms of a first peak corresponding to the helix melting points (microfibrillar origin) and a second peak corresponding to cystine decomposition (matrix origin). **Spei** [Spci] and Holzem, Colloid & Polymer Sci. 265, 965-970 (1987). However, further studies have shown that the first peak of the doublet, the microfibrillar peak, is more specifically a helix unfolding, superimposed by various decomposition reactions. Id. Herein, the term α-structure is associated with the doublet peak or peak area though technically the doublet area includes both a crystalline (microfibrillar) and non-crystalline (matrix) contribution. The α-structure represents the overall integrity of the fiber in an unstressed state. (See Figure 1).

The sole full paragraph on page 10 has been amended as follows:

The greater the peak area, usually expressed in Joules per gram of hair, the higher the percentage of the hair cortex in the α-structure form. The DSC peak, at 210-250°C, also coincides with the disappearance of the alpha-pattern in the X-ray diffraction. Sandhu and Robbins, J. Soc. Cosmet. Chem., 44, 163-175 (1993). In other words, when normal hair is damaged by heat, chemical treatment, or UV irradiation, a decrease in the doublet peak area of the DSC is observed and the amount of damage can be quantified by the peak area. The correlation between a decrease in DSC peak area and damage to the hair fibers is further verified by a corresponding decrease in the number of disulfide bonds (expressed as **half-cystine** [hair-cystine]) in the hair (see Table 1 below). A decrease in the number of disulfide bonds corresponds to a breakdown in the chemical structure of the hair.

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Table 1, on page 11 has been amended as follows:

Table 1. Effect of Chemical Treatment, Heat, and UV Irradiation on Chemical and Physical Properties of the Hair

Hair type	Doublet peak area J/g hair	Half-Cystine [Hair-Cystine] micromole/g hair
Normal blonde hair	81.57 +/- 8.28	918.7 +/- 165.8
Blonde hair after:		
Perm	54.63 +/- 25.78	810.1 +/- 135.9
Bleach	53.22 +/- 13.12	740.1 +/- 45.9
UV (180 h)	13.98 +/- 11.78	629.7 +/- 8.8
Heat (12 cycles at 130°C)*	18.63 +/- 8.56	654.3 +/- 50.7

*12 cycles, 1 min each, at 130°C

The first full paragraph on page 13 has been amended as follows:

Derivatives of C3 to C5 monosaccharides are also useful in the compositions and methods of the invention. Exemplary derivatives include, but are not limited to, **amine** [imine] derivatives such as lyxozylimine. For example, ammonias or primary amines may react with the aldehyde or ketone group of a sugar to form an imine, which is a compound containing the functional group C=N. These imine compounds are sometimes also referred to as Schiff bases. Other exemplary derivatives of C3 to C5 monosaccharides include, but are not limited to, hemiacetal, hemiketal or any oxidized derivatives. These derivatives may be formed by the reaction of the aldehyde or ketone group of a sugar with an alcohol. Still other exemplary derivatives of a C3 to C5 monosaccharide may also include, but are not limited to, dimers and oligomers of C3 to C5 monosaccharides such as xylobiose.

The sole full paragraph on page 32 has been amended as follows:

Normal blonde hair was subjected to 12 heat cycles, as described in Example 2, using 0.1 wt% of the pentose **amine** [imine] derivative, D-Lyxosylimine in deionized water. The lyxosylimine solution protected the α-structure hair, as compared to water treatment (Table 16).

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